



# THE HEALTH OF TEXANS

TEXAS STATE

STRATEGIC HEALTH PLAN

PART I

## EXECUTIVE SUMMARY

TEXAS DEPARTMENT OF HEALTH



## STATEMENT FROM THE CHAIR OF THE TEXAS BOARD OF HEALTH AND THE TEXAS COMMISSIONER OF HEALTH

Texas has many health assets and opportunities, but Texas also has some critical health challenges that must be addressed. We intend to lead the Texas Department of Health (TDH) to address the health challenges within our purview as effectively and efficiently as possible. We intend for the health of Texans to improve measurably because of the efforts of TDH.

We at TDH know that TDH alone cannot perform all of the diverse activities needed to address the health of Texans; therefore, we intend to invite partners across the state to work better together to create a culture of health and fitness in Texas.

This report contains a wealth of information that we are proud to present as a snapshot of the health of Texans. In addition to point-in-time health status information, the data in the report suggest some broad-based, systemic, and long-range findings. We would like to address the findings and make some commitments on behalf of TDH.

**Coordination counts:** We wholeheartedly believe in the finding in this report that coordination counts. Beginning this fall, TDH will convene and lead a statewide public health steering committee to address health status challenges identified in this report.

The steering committee will also address the findings of a second TDH report to be published in August 2002 — the *Public Health Improvement Plan: Texas State Strategic Health Plan Part II*. The *Public Health Improvement Plan* addresses the need for a coordinated public health system. The steering committee will also establish goals for making improvements in the public health system.

**Healthy behaviors are key:** In every public health effort undertaken by TDH, efforts will be made to identify and target the behaviors that result in poor health outcomes as well as poor health status. TDH will call upon front-line and academic expertise in best practices in public health promotion. In addition, TDH commits to evaluating and reporting on the effectiveness of health promotion efforts in improving health status.

Despite the strong role individual behaviors can play in promoting the state's health, it must also be recognized that larger factors such as economic hardship, environmental problems, inadequate health infrastructure, and poor-quality health education, to name a few, are not changeable by individuals and must be addressed by state and local policies. TDH will support innovative ways to create an environment in which individuals have real choices and understand the full implications of those choices.



**Different groups have different challenges and resiliencies:** We at TDH recognize that Texas is a diverse state and that creating a culture of health and fitness depends on addressing the resiliencies and challenges of different socioeconomic, racial, ethnic, and geographic groups in Texas. In designing and implementing our various public health programs, TDH will make a renewed effort to assure that our programs can be made successful for all Texans and we will share what we learn with our partners.

**Health affects the economy:** As this report outlines, the effect of successful public health efforts on the economy can be very positive. TDH will make a strong effort to measure the savings and benefits from our programs and, when appropriate, make those savings and benefits part of the dialogue with our partners in prioritizing public health efforts.

**Data, data, data:** Data are a cornerstone of public health efforts. We will increase our efforts to provide accessible, standardized data on which to base sound public health policy. TDH will better coordinate its data functions to help identify and prioritize health status measures at the state and sub-state levels. In addition, we will work with other entities gathering public health data to identify and address data gaps.

We believe that TDH can help create a Texas in which all of us can experience health in a measurably better way. ¡Vámonos!



---

Mario R. Anzaldúa, M.D.  
Chair, Texas Board of Health



---

Eduardo J. Sanchez, M.D., M.P.H.  
Texas Commissioner of Health



# EXECUTIVE SUMMARY

---

**This executive summary provides highlights from the entire report *The Health of Texans: Texas State Strategic Health Plan, Part I*. The full text of the report is available upon request and at the Texas Department of Health Website <<http://www.tdh.state.tx.us>>.**

The health of Texans is everyone's business. The key to good health for all Texans is creating a culture of health and fitness in which individuals and communities make healthy choices as a matter of course. No single entity such as the Texas Department of Health (TDH) can, by itself, move a population closer to a culture of health.

TDH envisions that, as the state's public health agency, we can provide the leadership and planning to better coordinate the efforts of state and local organizations and individuals to make measurable improvements in the public's health. The Commissioner of Health will convene a broad-based stakeholder steering committee following the publication of this report to establish Texas health improvement goals that all partners will jointly take responsibility for developing and reaching. The information in the report will focus health improvement discussions among the public health stakeholders.

The steering committee will also address the findings of a second TDH report to be published in August 2002 — the *Public Health Improvement Plan: Texas State Strategic Health Plan Part II*. The *Public Health Improvement Plan* addresses the need for a coordinated public health system. The steering committee will also establish goals for making improvements in the public health system.

## Findings

The full text of *The Health of Texans* report provides data from Texas for the following categories of health status indicators: behavioral health risks; chronic diseases; infectious diseases; maternal and child health; injuries; mental health; dental health; and environmental health issues. When possible, national comparison data are provided, as well as trend information and data sorted by racial/ethnic group, gender, and age group. Notes on the costs of health conditions are also provided when possible.

When viewing the data as a whole, some findings are worth reporting and considering in making plans to address health status in Texas. These findings are a starting place for the proposed stakeholder steering committee discussions.

### **1. Coordination counts.**

Many public and private entities do crucial work in addressing the health of Texans. Examples of some important coordination and collaboration efforts exist. However, Texas generally lacks a coordinated approach to establishing health goals, having individual organizations take responsibility for reaching those goals, measuring the impact of coordinated efforts, and making adjustments over time.



## ***2. Healthy behaviors are key.***

The topics discussed in this report are the major or emerging issues that affect the health of Texans. For the majority of these health conditions, adopting healthy behaviors is the key to avoiding or reducing their negative impacts. How to get Texans, individually and collectively, to adopt healthy behaviors is the primary question left for further investigation and action after understanding the major health threats described here.

Despite the strong role individual behaviors can play in improving the state's health, it must also be recognized that some key factors influencing health are not generally changeable by individuals. Such things as pollution, poor health infrastructure, low-quality educational systems, and economic hardship must often be addressed by policy decisions at the community level or above.

## ***3. Different groups have different challenges and resiliencies.***

Available data make it clear that some Texans experience health differently depending on their race/ethnicity, gender, and age group. Other data show important differences by region, socioeconomic status, educational attainment, family structure, culture, language, etc. While some work has been done to understand why some health outcomes are tied to these characteristics, generally our understanding is limited.

## ***4. Health affects the economy.***

The costs of diseases and their consequences highlighted throughout this report are staggering. Investing in creating a culture of health and fitness in Texas makes economic sense.

## ***5. Data, data, data.***

Understanding the health of Texans depends on data that are current, accurate, comparable over time and location, and easily accessible. For some important diseases or health conditions in Texas, the available data do not meet these criteria.

## **Causes of Death**

“Leading causes of death” is perhaps the most basic health indicator on the macro level that can serve as a frame of reference for other health issues. Table I compares the leading causes of death for whites, African Americans, and Hispanics in Texas and the United States.\* Most of the causes of death in the table are discussed in more detail in the body of the report. The most current data available for Texas are for 2000; most current for the U.S., 1999.

\*Throughout this report, the major racial/ethnic groups in Texas — white, African American, and Hispanic — will be discussed. “White” refers to non-Hispanic whites. “African American” refers to non-Hispanic African Americans. “Hispanic” refers to persons of Hispanic national origin or ethnicity who may be of any race. The three racial/ethnic groups are mutually exclusive in the statistics noted.



**Table I Leading Causes of Death by Race/Ethnicity,  
Texas (2000) and U.S. (1999)**

<b>Leading Causes of Death</b>  (as % of total deaths in racial/ethnic category)	<b>TX Whites<sup>1</sup></b>	<b>U.S. Whites<sup>2</sup></b>	<b>TX Afr. Amer.<sup>3</sup></b>	<b>U.S. Afr. Amer.<sup>4</sup></b>	<b>TX Hispanics<sup>5</sup></b>	<b>U.S. Hispanics<sup>6</sup></b>
1	Diseases of the heart (29.8%)	Diseases of the heart (31.1%)	Diseases of the heart (28.4%)	Diseases of the heart (27.6%)	Diseases of the heart (24.0%)	Diseases of the heart (24.9%)
2	Cancer (22.8%)	Cancer (23.4%)	Cancer (22.3%)	Cancer (21.8%)	Cancer (19.5%)	Cancer (21.8%)
3	Stroke (7.4%)	Stroke (7.1%)	Stroke (7.3%)	Stroke (6.6%)	Accidents (unintentional injuries) (8.0%)	Stroke (6.6%)
4	Chronic lower respiratory diseases (5.8%)	Chronic lower respiratory diseases (5.7%)	Accidents (unintentional injuries) (4.6%)	Accidents (unintentional injuries) (4.4%)	Diabetes (6.9%)	Accidents (unintentional injuries) (4.4%)
5	Accidents (unintentional injuries) (4.5%)	Accidents (unintentional injuries) (3.8%)	Diabetes (4.3%)	Diabetes (4.2%)	Stroke (6.2%)	Diabetes (4.2%)
6	Influenza and pneumonia (2.6%)	Influenza and pneumonia (2.8%)	Chronic lower respiratory diseases (2.8%)	Chronic lower respiratory diseases (2.8%)	Chronic liver disease and cirrhosis (3.2%)	Chronic liver disease and cirrhosis (2.9%)
7	Diabetes (2.6%)	Diabetes (2.5%)	HIV (2.5%)	HIV (2.7%)	Assault (homicide) (2.2%)	Homicide (2.8%)
8	Alzheimer's disease (2.5%)	Alzheimer's disease (2.1%)	Assault (homicide) (2.0%)	Homicide (2.7%)	Influenza and pneumonia (2.2%)	Chronic lower respiratory diseases (2.8%)
9	Suicide (1.5%)	Nephritis, nephrotic syndrome, and nephrosis (1.4%)	Influenza and pneumonia (1.9%)	Nephritis, nephrotic syndrome and nephrosis (2.4%)	Chronic lower respiratory diseases (2.0%)	Influenza and pneumonia (2.2%)
10	Septicemia (1.2%)	Suicide (1.3%)	Nephritis, nephrotic syndrome, and nephrosis (1.9%)	Influenza and pneumonia (2.1%)	Septicemia (1.5%)	Certain conditions originating in the perinatal period (2.1%)

Source: Texas Department of Health.





## Behavioral Health Risks

Texans are doing better than the national average in avoiding some health risks. However, for other risk behaviors, Texas lags behind the national average. Table II summarizes some of the key health-risk behavior statistics for Texas and the United States.

**Table II Behavioral Health Risks**  
Texas and U.S.

Health Risk	Texas	U.S.
Cigarette smoking — adults <sup>7</sup>	22.1% of adult Texans are current smokers (2000)	23.2% of adults in the U.S. are smokers (2000)
Cigarette smoking — youth <sup>8</sup>	25% of high school students reported current cigarette use (2001)	28% of high school students reported current cigarette use (2000)
Overweight and obesity — adults <sup>9</sup>	23.1% of Texas adults are obese; an additional 36.7% are overweight (2000)	20.1% of adult Americans are obese; an additional 36.7% are overweight (2000)
Overweight and obesity — youth <sup>10</sup>	14% of Texas high school students are overweight or obese (2001)	10.5% of U.S. high school students are overweight or obese (2001)
Physical inactivity — adults <sup>11</sup>	28.5% of Texas adults participated in no physical activity in the past month (2000)	26.9% of U.S. adults participated in no physical activity in the past month (2000)
Physical inactivity — youth <sup>12</sup>	35% of Texas high school students do not participate in sufficient physical activity (2001)	35% of U.S. high school students do not participate in sufficient physical activity (2001)
Alcohol abuse — binge drinking (adults) <sup>13</sup>	18.2% of Texas adults reported binge drinking (2000)	14.9% of U.S. adults reported binge drinking (1999)
Alcohol abuse — youth <sup>14</sup>	48.6% of high school students reported current alcohol use (2001)	47.1% of high school students reported current alcohol use (2001)
Illicit drug use — adult	10% of adult Texans reported past-year illicit drug use (2000) <sup>15</sup>	10% of adult Americans reported past-year illicit drug use (2000) <sup>16</sup>
Illicit drug use — youth <sup>17</sup>	41% of Texas high school students had used marijuana during their lifetime (2001)	42% of U.S. high school students had used marijuana during their lifetime (2001)
Lack of pneumococcal vaccination for adults aged 65 and older <sup>18</sup>	44.1% of 65+ Texans had never received a pneumococcal vaccination (1999)	45.1% of Americans 65+ had never received a pneumococcal vaccination (1999)
Lack of mammography <sup>19</sup>	23% of women aged 40 and older had never had a mammogram and breast exam (2000)	18% of women aged 40 and older had never had a mammogram and breast exam (2000)

Source: Texas Department of Health.



## Chronic Diseases

### *Coronary Heart Disease*

*Coronary heart disease (CHD)* is the single largest killer of Texans and Americans alike.<sup>20</sup> However, ten-year mortality trend data in Texas show that age-adjusted rates for CHD have decreased significantly since 1989.<sup>21</sup>

In Texas, death rates from CHD are highest for African Americans as compared with whites and Hispanics. Five-year age-adjusted mortality data show that Texas males have approximately twice the risk of dying from CHD compared with females.<sup>22</sup>

### *Cancer*

*Cancer* is a diverse group of diseases characterized by uncontrolled growth and spread of abnormal cells anywhere in the body. The American Cancer Society estimates that approximately one in two men and one in three women alive today will develop some type of cancer in their lifetime.<sup>23</sup>

The overall cancer experience of Texans differed substantially by race/ethnicity in 1998 in both incidence and mortality. The highest rates were in African Americans, then whites, then Hispanics.<sup>24</sup>

*Prostate cancer* was the leading new cancer in Texas men in 1998; *breast cancer*, the leading new cancer in women. *Lung* and *bronchus cancers* were the second, and *colon* and *rectum cancers* the third, most commonly diagnosed cancers in Texas in 1998. Prostate, breast, lung and bronchus, and colon and rectum cancers accounted for almost 50 percent of all cancers reported in Texas in 1998.<sup>25</sup>

### *Stroke*

*Stroke* is the third leading cause of death in both Texas and the United States.<sup>26</sup>

Five-year age-adjusted mortality data for Texas show that among the racial/ethnic groups, African Americans have the highest mortality rates for stroke, then whites, then Hispanics.<sup>27</sup>

Up to one-third of stroke survivors need help caring for themselves, 20 percent need help walking, and 70 percent are not able to perform the same job tasks they did before the stroke.<sup>28</sup>

### *Diabetes*

*Diabetes* was the sixth leading cause of death in Texas in 2000.<sup>29</sup>

Five-year age-adjusted mortality data for Texas show that the mortality rates for African Americans and Hispanics were two to three times higher than for whites.<sup>30</sup>

In 2000, approximately 6.2 percent of the adult Texas population and the same percentage of the adult U.S. population reported having been diagnosed with diabetes.<sup>31</sup>





## *Geriatric Health Conditions*

Many of the diseases discussed throughout this report affect older Texans more often or more severely than younger adult age groups; however, osteoporosis, arthritis, and Alzheimer's disease predominantly affect the elderly. With elderly Texans expected to number 2.5 million by 2010, these geriatric health conditions will have important effects on the population's health.<sup>32</sup>

Approximately 2 million Texans have *osteoporosis* or low bone mass and 80,000 Texans experience osteoporosis-related fractures each year.<sup>33</sup> In the U.S., 80 percent of those affected by osteoporosis are women.<sup>34</sup>

An estimated 21 percent of Texas adults suffer from *arthritis*.<sup>35</sup> One and a half million Texans report arthritic conditions as a cause of activity limitation.<sup>36</sup> In Texas and the U.S., Hispanics tend to suffer less from arthritis than whites or African Americans.<sup>37</sup> Women report arthritis more than men in Texas and the U.S.<sup>38</sup>

In both Texas and the U.S., approximately 10 percent of persons 65 and older have *Alzheimer's disease* and approximately 50 percent of those older than 85 have Alzheimer's.<sup>39</sup>

## Infectious Diseases

### *HIV/AIDS*

In both Texas and the U.S., *AIDS* affects African Americans more than Hispanics and whites.<sup>40</sup>

In both Texas and the U.S., *HIV* affects men more than women.<sup>41</sup> However, higher rates of HIV infection in women than in past years indicate an increasing spread of new infections among women.<sup>42</sup>

The 7.0 percent increase in reported AIDS cases from 2000 to 2001 in Texas marks the first increase in AIDS numbers in five years.<sup>43</sup>

### *Other Sexually Transmitted Diseases*

The 497 reported *syphilis* cases in Texas in 2001 represented a 20 percent increase from cases reported in 2000, ending a nine-year downward trend.<sup>44</sup> In both Texas and the U.S., syphilis affects African Americans much more frequently than whites or Hispanics.<sup>45</sup>

Over the past several years, *gonorrhea* rates in Texas and the U.S. have remained stable.<sup>46</sup> In both Texas and the U.S., gonorrhea affects African Americans much more frequently than whites or Hispanics.<sup>47</sup>

### *Hepatitis A, B, and C*

In Texas, *hepatitis A* (HAV) affects Hispanics more than African Americans or whites.<sup>48</sup> In the U.S., children between the ages of 5 and 14 have the highest incidence of HAV among age groups.<sup>49</sup>

African Americans are affected by *hepatitis B* (HBV) more than Hispanics and whites in both Texas and the U.S.<sup>50</sup> Males are affected by HBV more than females statewide and nationally.<sup>51</sup>

Males have a greater incidence of *hepatitis C* (HCV) than females in Texas and the United States.<sup>52</sup> The CDC estimates that the incidence of HCV in the U.S. decreased from an average of 240,000 new cases per year in the 1980s to about 40,000 per year in 1998,<sup>53</sup> largely because of a decrease in transfusion-associated infections due to better blood-supply screening.<sup>54</sup>



## *Tuberculosis*

Between 1994 and 2000, the number of *tuberculosis* (TB) cases in Texas decreased 41 percent.<sup>55</sup> However, in 2000–01, TB cases increased 9 percent (from 1,506 to 1,643 cases).<sup>56</sup> In the U.S., TB incidence has declined steadily since 1992, including between 2000 and 2001.<sup>57</sup>

The 14 Texas counties that border Mexico have a TB rate of 12.8 cases per 100,000 population, versus a statewide TB rate of 7.9 cases per 100,000 population.<sup>58</sup>

## *Pertussis — Childhood Immunization*

*Pertussis* (whooping cough) is a highly contagious upper respiratory disease. Although it is vaccine-preventable, Texas has experienced high levels of morbidity from pertussis, with an average of more than 150 cases reported each year since 1990. In 2000, 615 cases of pertussis were reported in Texas.<sup>59</sup>

This pertussis incidence is symptomatic of a larger childhood immunization problem in Texas. According to the 2000 National Immunization Survey, Texas ranks last among all states for the series of vaccines that includes pertussis for children 19–35 months of age, with only 69.5 percent of children immunized.<sup>60</sup>

## *Foodborne Infections*

In 1999, there were 2,198 cases of *salmonellosis* reported in Texas, for an incidence of 11 per 100,000. Children under age 5 are especially vulnerable to salmonellosis, due to their underdeveloped immune systems. Children under age 1 had an incidence of 145 per 100,000 population in 1999 in Texas.<sup>61</sup>

Like salmonellosis, the highest incidence for *shigellosis* is in children under 5 years of age (53 per 100,000 population in 1999 versus an overall rate of 11 per 100,000 population).<sup>62</sup>

## *Emerging Issue: Bioterrorism*

Between October and December 2001, there were 11 confirmed cases of *inhalation anthrax* in the United States as the result of intentional release of anthrax spores — five resulted in fatalities. No cases were reported in Texas. Prior to October 2001, the last case of inhalation anthrax in the U.S. occurred in 1976.<sup>63</sup>

*Smallpox* was eradicated worldwide by 1980.<sup>64</sup> The last cases of smallpox in the U.S. occurred in 1949.<sup>65</sup> Several factors fuel concerns about smallpox as a possible bioterrorist weapon: up to 30 percent of infected persons die; the scabs formed when the disease is active permanently disfigure victims; there is no treatment for the disease; the disease is communicable from person to person; the general population in the U.S. has not been vaccinated in more than 25 years and, it is known that Russia, at least, has smallpox virus and the capacity to produce large quantities.<sup>66</sup>



# Maternal and Child Health

## *Infant Mortality*

The 2000 *infant mortality* rate in Texas was 5.7 per 1,000 live births.<sup>67</sup> Nationally in 2000, the rate was 6.9 per 1,000 live births.<sup>68</sup> In both Texas and the U.S., the infant mortality rate for African Americans is more than twice the rate for whites and Hispanics.<sup>69</sup>

## *Neural Tube Defects*

Beginning January 1998, the U.S. Food and Drug Administration (FDA) required folic acid fortification of U.S. grain products sold in the U.S. Recent national data (including Texas) comparing neural tube defect (NTD) prevalence before and after mandatory fortification indicate a 31 percent decline in the birth prevalence of spina bifida and a 16 percent decline in anencephaly. For the period from October 1998 through December 1999, national rates from combined birth defects registry data were 3.54 per 10,000 live births for spina bifida and 2.05 for anencephaly.<sup>70</sup>

The 14 counties bordering Mexico have consistently experienced exceptionally high rates of NTDs, with anencephaly rates spiking at times, in certain counties, to as high as 26 per 10,000 live births.<sup>71</sup>

## *Prenatal Care*

In Texas in 2000, 12.5 percent of white women lacked *prenatal care* in the first trimester, compared to 28.8 percent of Hispanic women and 23.7 percent of African-American women.<sup>72</sup> Across the nation, there were similar disparities in 2000.<sup>73</sup>

## *Low Birth Weight Babies*

In 2000, 7.4 percent of babies in Texas were *low birth weight*,<sup>74</sup> as compared with 7.6 percent nationally.<sup>75</sup> Low birth weight babies are at increased risk for negative health outcomes and death.<sup>76</sup> In both Texas and the U.S., the percentage of low birth weight babies born to African American women was almost twice that for Hispanic and white women.<sup>77</sup>

## *Tobacco and Alcohol Use During Pregnancy*

*Tobacco and alcohol use during pregnancy* have been shown to cause negative health outcomes in infants. When women smoke during pregnancy, they increase their risk for preterm delivery and for having a low birth weight baby, both of which are associated with increased infant mortality.<sup>78</sup> Alcohol can cause low birth weight and other negative health outcomes. One of the most detrimental outcomes of alcohol use during pregnancy is Fetal Alcohol Syndrome (FAS). Children with FAS can have serious lifelong disabilities, including mental retardation, learning disabilities, and serious behavioral problems.<sup>79</sup>

Tobacco and alcohol use during pregnancy are self-reported data taken from birth certificates and are considered by many to be substantially underreported.<sup>80</sup> In 2000, 6.4 percent of Texas mothers reported using tobacco during pregnancy.<sup>81</sup> In 2000, 12.2 percent of mothers nationwide reported smoking during pregnancy.<sup>82</sup> Only 0.9 percent of Texas and U.S. mothers reported consuming alcohol during pregnancy in 2000.<sup>83</sup>



## *Teen Mothers*

Birth certificate data demonstrate that one-third of pregnant teens receive inadequate prenatal care. Infants born to young mothers are more likely to be low birth weight, to have childhood health problems, and to be hospitalized than are those born to older mothers.<sup>84</sup>

In both Texas and the United States, the birth rate for teens has declined since 1994.<sup>85</sup> Still, the teen birth rate for the U.S. is highest of all developed countries.<sup>86</sup>

## Injuries

Motor vehicle crashes, suicide, and homicide — in that order — are the three most common causes of injury deaths in Texas.<sup>87</sup> (Suicide is discussed under “Mental Health.”)

The *unintentional injury mortality* rate has increased in Texas since 1994 to a current rate of 37.4 per 100,000 population. Unintentional injuries (accidents) were the fourth leading cause of death among all Texans in 2000 and the leading cause for Texans ages 1–34.<sup>88</sup>

In 2000, 3,679 people were killed and more than 300,000 injured in *motor vehicle crashes*. Many of these deaths and injuries could have been prevented had drivers or passengers been using seat belts.<sup>89</sup>

*Homicide* rates have been declining in Texas and the U.S. through the 1990s.<sup>90</sup> Males tend to be both murder victim and perpetrator much more often than females in both Texas and the United States.<sup>91</sup> Handguns are used to commit the majority of murders in Texas and the U.S.<sup>92</sup>

## Mental Health

The Texas Department of Mental Health and Mental Retardation reports that more than 150,000 children and approximately 375,000 adults in Texas have severe mental illnesses that are disabling and require intervention.<sup>93</sup>

### *Depressive Disorder*

More than 400,000 Texans are estimated to suffer from major *depressive disorder*.<sup>94</sup> Nationwide, nearly twice as many women as men suffer from a depressive disorder each year.<sup>95</sup>

### *Suicide*

*Suicide* is an indicator of the mental health status of a population, because suicide occurs most frequently as the result of a mental disorder.<sup>96</sup> The state suicide rate in 2000 was 10.3 per 100,000 population (versus 10.7 nationally in 1999).<sup>97</sup> In both Texas and the U.S., whites are more than twice as likely to commit suicide than African Americans and Hispanics, and men commit suicide more often than women.<sup>98</sup> White males committed 60 percent of all suicides in Texas in 2000.<sup>99</sup>



## Dental Health

Tooth decay is one of the most preventable diseases. Regular oral hygiene such as flossing and brushing, coupled with a preventive dental program, can prevent tooth decay. A complete preventive dental program includes sealants, fluoride, and regular professional dental care.<sup>100</sup>

### *Tooth Decay*

No statewide data are currently available on the prevalence of *tooth decay* in Texas for adults or children. In 2001, the University of Texas Health Science Center at Houston Dental Branch (UTHSC) completed a dental study of children in seven counties around Houston. The study found that second graders had an average of 0.27 decayed, missing, or filled permanent teeth. Seventh graders had an average of 1.19 decayed, missing, or filled permanent teeth, and tenth graders had an average of 2.38 decayed, missing, or filled permanent teeth.<sup>101</sup>

Nationally, improvements have been noted over the past 25 to 30 years with regard to tooth decay among adults.<sup>102</sup>

### *Dental Sealants*

Dental sealants are thin plastic coatings applied to the chewing surfaces of the molars (back teeth). It is best if the sealant is applied soon after the molars have erupted, before the teeth have a chance to decay. For that reason, children between the ages of 5 and 15 benefit most from sealants.<sup>103</sup>

There are no statewide studies of children with sealants in Texas. The UTHSC study mentioned above found the prevalence of dental sealants among all survey participants to be between 27.8 percent (Matagorda County) and 51.0 percent (Galveston County).<sup>104</sup>

One national study found that 23 percent of all 8-year-olds had sealants.<sup>105</sup>

### *Water Fluoridation*

Fluoride works by stopping or even reversing tooth decay.<sup>106</sup> Fluoridation in the public water supply is the most equitable, cost-effective, and cost-saving method of delivering fluoride to the community.<sup>107</sup>

In Texas, approximately 30 percent of Texas residents experience less than optimal levels of fluoridation.<sup>108</sup>

In the United States in 2000, approximately 162 million persons, or 65.8 percent of the population served by public water systems, received optimally fluoridated water.<sup>109</sup>

### *Last Dental Visit*

Most dentists recommend routine teeth cleaning every 6 months and a more complete dental exam every year. According to the state and national Behavioral Risk Factor Surveillance Survey in 1999, 61.4 percent of Texas adults had visited a dentist in the past 12 months. Nationally, 68.1 percent of adults reported having visited a dentist in the past 12 months.<sup>110</sup>



## Environmental Health

### *Outdoor Air Quality*<sup>111</sup>

Ground-level *ozone* is the primary ingredient of smog and can affect lung function and aggravate respiratory diseases such as asthma and bronchitis. Half the Texas population lives in urban areas designated as being in “nonattainment” under federal Environmental Protection Agency (EPA) regulations for ozone.

*Carbon monoxide* is produced by the incomplete combustion of fuels, mainly from transportation sources such as trucks and cars. El Paso is the only city in Texas with the “nonattainment” designation under EPA regulations for carbon monoxide.

*Particulate matter* includes dirt, dust, smoke, and a complex mixture of chemicals that are small enough to be inhaled and travel deep within the respiratory system, causing decreased lung function and cardiovascular disease and aggravating respiratory disease such as asthma. El Paso is the only area in the state with the “nonattainment” designation under EPA regulations for particulate matter.

### *Drinking Water Quality*

More than 97 percent of public water systems in Texas met or exceeded the state and federal standards for bacteria in 2000 — an improvement since 1995, when 82 percent met standards.<sup>112</sup>

### *Surface Water Quality*<sup>113</sup>

Texas Surface Water Quality Standards set out explicit water quality targets for individual bodies of water. The standards protect surface water uses, including maintenance of aquatic life, recreation, water for public supplies, and others. If water quality in a river basin or estuary segment is determined not to meet a state water quality standard, then it is considered “impaired.” For the assessed waters in 2000, 30 percent of stream miles, 38 percent of estuary areas, and 38 percent of reservoir areas were impaired.







## Executive Summary

1. Texas Department of Health, Bureau of Vital Statistics. *2000 Annual Report, Mortality*. Available at: <<http://www.tdh.state.tx.us/bvs/stats00/contents.htm#death>>. Accessed June 6, 2002.
2. Anderson RN. Deaths: Leading Causes for 1999. *National Vital Statistics Report*, 2001 Oct 12;49(11):1. Available at: <[http://www.cdc.gov/nchs/data/nvsr/nvsr49/nvsr49\\_11.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr49/nvsr49_11.pdf)>. Accessed April 1, 2002.
3. Texas Department of Health, Bureau of Vital Statistics. *2000 Annual Report, Mortality*. Available at: <<http://www.tdh.state.tx.us/bvs/stats00/contents.htm#death>>. Accessed June 6, 2002.
4. Anderson RN. Deaths: Leading Causes for 1999. *National Vital Statistics Report*, 2001 Oct 12;49(11):1. Available at: <[http://www.cdc.gov/nchs/data/nvsr/nvsr49/nvsr49\\_11.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr49/nvsr49_11.pdf)>. Accessed April 1, 2002.
5. Texas Department of Health, Bureau of Vital Statistics. *2000 Annual Report, Mortality*. Available at: <<http://www.tdh.state.tx.us/bvs/stats00/contents.htm#death>>. Accessed June 6, 2002.
6. Anderson RN. Deaths: Leading Causes for 1999. *National Vital Statistics Report*, 2001 Oct 12;49(11):1. Available at: <[http://www.cdc.gov/nchs/data/nvsr/nvsr49/nvsr49\\_11.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr49/nvsr49_11.pdf)>. Accessed April 1, 2002.
7. Texas Department of Health, Texas Behavioral Risk Factor Surveillance System, 2000.
8. Texas Department of Health, Bureau of Chronic Disease and Tobacco Prevention. *Results of 2001 Texas Youth Tobacco Survey*. In preparation.
9. Texas Department of Health, Texas Behavioral Risk Factor Surveillance System, 2000.
10. Texas Department of Health, Bureau of Chronic Disease and Tobacco Prevention. *Results of 2001 Texas Youth Risk Behavior Survey*. In preparation.
11. Texas Department of Health, Texas Behavioral Risk Factor Surveillance System, 2000.
12. Texas Department of Health. Bureau of Chronic Disease and Tobacco Prevention. *Results of the 2001 Texas Youth Risk Behavior Survey*. In preparation.
13. Texas Department of Health, Texas Behavioral Risk Factor Surveillance System, 1999 and 2000.
14. Texas Department of Health, Bureau of Chronic Disease and Tobacco Prevention. *Results of 2001 Texas Youth Risk Behavior Survey*. In preparation.
15. Wallisch LS. *2000 Texas Survey of Substance Use Among Adults*, Austin: Texas Commission on Alcohol and Drug Abuse. July 2001. Available at: <<http://www.tcada.state.tx.us/research/AdultHousehold.pdf>>. Accessed April 13, 2002.



16. Substance Abuse and Mental Health Services Administration, Office of Applied Studies. *National Household Survey on Drug Abuse*. 2000. Available at: <<http://www.samhsa.gov/oas/p0000016.htm#standard>>. Accessed April 13, 2002.
17. Texas Department of Health, Bureau of Chronic Disease and Tobacco Prevention, *2001 Texas Youth Risk Behavior Survey, Summary Findings*. In preparation.
18. Texas Department of Health, Texas Behavioral Risk Factor Surveillance System, 1999.
19. Texas Department of Health, Texas Behavioral Risk Factor Surveillance System, 2000.
20. Texas Department of Health, Bureau of Vital Statistics. *Table 20B — Deaths from Selected Causes — 2000 Texas Residents by Race/Ethnicity, Sex and Age*. Available at: <[http://www.tdh.state.tx.us/bvs/stats00/annr\\_hm/00t20b.htm#CARDIO](http://www.tdh.state.tx.us/bvs/stats00/annr_hm/00t20b.htm#CARDIO)>. Accessed May 20, 2002.  
American Heart Association. *2002 Heart and Stroke Statistical Update*. Available at: <<http://www.americanheart.org/presenter.jhtml?identifier=3000090>>. Accessed May 20, 2002.
21. Texas Department of Health, Bureau of Chronic Disease and Tobacco Prevention.
22. Texas Department of Health, Bureau of Chronic Disease and Tobacco Prevention.
23. American Cancer Society. *Cancer Facts and Figures 2002*. Available at: <[http://www.cancer.org/eprise/main/docroot/stt/stt\\_0](http://www.cancer.org/eprise/main/docroot/stt/stt_0)>. Accessed April 10, 2002.
24. Texas Department of Health, Cancer Registry Division, *Texas Cancer Mortality, 2000* (April 2002 draft). Texas Department of Health, Bureau of Chronic Disease and Tobacco Prevention.
25. Texas Department of Health, Cancer Registry Division, *Texas Cancer Mortality, 2000* (April 2002 draft).
26. Texas Department of Health, Bureau of Vital Statistics. *2000 Annual Report. Tables. Deaths*. Available at: <<http://www.tdh.state.tx.us/bvs/stats00/contents.htm#death>>. Accessed April 10, 2002.  
Anderson RN. Deaths: Leading Causes for 1999. *National Vital Statistics Report, 2001* Oct 12;49(11):1. Available at: <[http://www.cdc.gov/nchs/data/nvsr/nvsr49/nvsr49\\_11.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr49/nvsr49_11.pdf)>. Accessed April 1, 2002.
27. Texas Department of Health, Bureau of Chronic Disease and Tobacco Prevention.
28. Henkel J. New Success Against Strokes. *FDA Consumer*. March/April 1998:12–16. Available at: <[http://www.fda.gov/fdac/features/1998/298\\_stroke.html](http://www.fda.gov/fdac/features/1998/298_stroke.html)>. Accessed April 10, 2002.
29. Texas Department of Health, Bureau of Vital Statistics. *2000 Annual Report. Tables. Deaths*. Available at: <<http://www.tdh.state.tx.us/bvs/stats00/contents.htm#death>>. Accessed April 10, 2002.
30. Texas Department of Health, Bureau of Chronic Disease and Tobacco Prevention.
31. Texas Department of Health, Texas Behavioral Risk Factor Surveillance System, 2000.
32. Texas State Data Center. Data for 2010 are based on migration growth scenario 0.5 projections. December 2001.
33. Texas Department of Health Osteoporosis. *Fast Facts about Osteoporosis*. Available at: <<http://www.tdh.state.tx.us/osteo/fastfacts.htm>>. Accessed April 11, 2002.



34. National Institutes of Health, Osteoporosis and Related Bone Diseases National Resource Center. *Fast Facts on Osteoporosis*. Available at: <<http://www.osteoporosis.org/osteofastfact.html>>. Accessed April 11, 2002.
35. Texas Department of Health, Texas Behavioral Risk Factor Surveillance System, 1999.
36. Texas Department of Health. *Texas Risk Factor Report, Arthritis 1999 Survey Data*. Available at: <<http://www.tdh.state.tx.us/chronicd/arth2000.pdf>>. Accessed April 11, 2002.
37. Texas Department of Health, Texas Behavioral Risk Factor Surveillance System, 1999. National Center for Chronic Disease Prevention and Health Promotion. *Arthritis*. Available at: <<http://www.cdc.gov/nccdphp/arthritis/index.htm>>. Accessed April 11, 2002.
38. Texas Department of Health, Texas Behavioral Risk Factor Surveillance System, 1999. Adams PF, Hendershot GE, Marano MA. Current estimates from the National Health Interview Survey, 1996. National Center for Health Statistics. *Vital Health Stat.* 1999; Series 10(200):93, table 62. Available at: <[http://www.cdc.gov/nchs/data/series/sr\\_10/sr10\\_200.pdf](http://www.cdc.gov/nchs/data/series/sr_10/sr10_200.pdf)>. Accessed April 11, 2002.
39. Elaine Braslow, Texas Department of Health, Bureau of Chronic Disease and Tobacco Prevention, personal communication, May 22, 2002. Texas Department of Health Alzheimer's Program. *Alzheimer's Disease Statistics*. Available at: <[http://www.tdh.state.tx.us/osp/a\\_stats.htm](http://www.tdh.state.tx.us/osp/a_stats.htm)>. Accessed April 11, 2002.
40. Texas Department of Health, Bureau of HIV and STD Prevention, surveillance data from Ed Weckerly, personal communication, May 17, 2002. National Institute of Allergy and Infectious Disease, *HIV/AIDS Statistics*, February 2002. Available at: <<http://www.niaid.nih.gov/factsheets/aidsstat.htm>>. Accessed April 19, 2002.
41. Texas Department of Health, Bureau of HIV and STD Prevention surveillance data from Ed Weckerly, personal communication, May 17, 2002. National Institute of Allergy and Infectious Disease, *HIV/AIDS Statistics*, February 2002. Available at: <<http://www.niaid.nih.gov/factsheets/aidsstat.htm>>. Accessed April 19, 2002.
42. Texas Department of Health, Bureau of HIV and STD Prevention, surveillance data from Ed Weckerly, personal communication, May 17, 2002.
43. Texas Department of Health, Bureau of HIV and STD Prevention, surveillance data from Ed Weckerly, personal communication, May 17, 2002.
44. Texas Department of Health, Bureau of HIV and STD Prevention, STD surveillance data from Ed Weckerly, personal communication, May 17, 2002.
45. Texas Department of Health, Bureau of HIV and STD Prevention, STD surveillance data from Ed Weckerly, personal communication, May 17, 2002. National Center for HIV, STD and TB Prevention. *Sexually Transmitted Disease Surveillance 2000*. Available at: <<http://www.cdc.gov/std/stats/TOC2000.htm>>. Accessed April 19, 2002.
46. Ed Weckerly, Texas Department of Health, Bureau of HIV and STD Prevention, personal communication, May 17, 2002. National Center for HIV, STD and TB Prevention. *Sexually Transmitted Disease Surveillance 2000*. Available at: <<http://www.cdc.gov/std/stats/TOC2000.htm>>. Accessed April 19, 2002.



47. Ed Weckerly, Texas Department of Health, Bureau of HIV and STD Prevention, personal communication, May 17, 2002.  
National Center for HIV, STD and TB Prevention. *Sexually Transmitted Disease Surveillance 2000*. Available at: <<http://www.cdc.gov/std/stats/TOC2000.htm>>. Accessed April 19, 2002.
48. Texas Department of Health. Associateship for Disease Control and Prevention. *Epidemiology Annual Report Online, 1999*. Available at: <<http://www.tdh.state.tx.us/epidemiology/99annual/frames/frames.htm>>. Accessed April 19, 2002.
49. Summary of Notifiable Diseases, United States, 1999. *MMWR* 2001 April 6;48(53):Table 3. Available at: <<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm4853a1.htm>>. Accessed April 22, 2002.
50. Texas Department of Health. Associateship for Disease Control and Prevention. *Epidemiology Annual Report Online, 1999*. Available at: <<http://www.tdh.state.tx.us/epidemiology/99annual/frames/frames.htm>>. Accessed April 19, 2002.  
Centers for Disease Control. *Tracking the Hidden Epidemics: Trends in STDs in the United States 2000*:22. Available at: <[http://www.cdc.gov/nchstp/dstd/Stats\\_Trends/Trends2000.pdf](http://www.cdc.gov/nchstp/dstd/Stats_Trends/Trends2000.pdf)>. Accessed April 19, 2002.
51. Texas Department of Health. Associateship for Disease Control and Prevention. *Epidemiology Annual Report Online, 1999*. Available at: <<http://www.tdh.state.tx.us/epidemiology/99annual/frames/frames.htm>>. Accessed April 19, 2002.  
Summary of Notifiable Diseases, United States, 1999. *MMWR* 2001 April 6;48(53):Table 4. Available at: <<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm4853a1.htm>>. Accessed April 22, 2002.
52. Texas Department of Health. Infectious Disease Epidemiology & Surveillance Division. *Hepatitis C Annual Report: 1999*. Available at: <<http://www.tdh.state.tx.us/ideas/factsht/Annualreport1999.htm>>. Accessed April 22, 2002.  
Summary of Notifiable Diseases, United States, 1999. *MMWR* 2001 April 6;48(53):Table 4. Available at: <<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm4853a1.htm>>. Accessed April 22, 2002.
53. National Center for Infectious Diseases. *Viral Hepatitis C Fact Sheet*. Available at: <<http://www.cdc.gov/ncidod/diseases/hepatitis/c/fact.htm>>. Accessed April 23, 2002.
54. Kim WR, Poterucha JJ. Is It Time for Mass Screening for Hepatitis C? *American Journal of Medicine* 2001 Dec 1;111(8):667.
55. *Health Disparities in Texas: An Epidemiologic Review of Priority Health Outcomes*. Austin: Texas Department of Health. March 2002:69.
56. Texas Department of Health, Tuberculosis Elimination Division, unpublished data. May 17, 2002.
57. National Tuberculosis Surveillance System, Division of Tuberculosis Elimination, Centers for Disease Control and Prevention. Provisional 2001 data. March 5, 2002.
58. Texas Department of Health, Tuberculosis Elimination Division, unpublished data. May 17, 2002.
59. David Bastis, Texas Department of Health, Bureau of Immunization and Pharmacy Support, personal communication, May 21, 2002.



60. National, State, and Urban Area Vaccination Coverage Levels Among Children Aged 19–35 Months — United States, 2000. *MMWR* 2001 August 3;50(30):638. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5030a1.htm>. Accessed April 22, 2002.
61. Lisa Marengo, Texas Department of Health, Bureau of Communicable Disease Control, Infectious Disease Epidemiology and Surveillance Division, personal communication, May 22, 2002.
62. Lisa Marengo, Texas Department of Health, Bureau of Communicable Disease Control, Infectious Disease Epidemiology and Surveillance Division, personal communication, May 22, 2002.
63. Update: Investigation of Bioterrorism-Related Anthrax — Connecticut, 2001. *MMWR* 2001 December 7;50(48):1077–79. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5048a1.htm>. Accessed April 23, 2002.  
Jernigan JA, et al. Bioterrorism-related inhalational anthrax: The first 10 cases reported in the United States. *Emerg Infect Dis*. 2001 Nov-Dec;7(6):933–44. Available at: <http://www.cdc.gov/ncidod/EID/vol7no6/pdf/jernigan.pdf>. Accessed April 23, 2002.
64. Center for Civilian Biodefense Strategies. *Smallpox*. Available at: <http://hopkins-biodefense.org/pages/agents/agentsmallpox.html>. Accessed April 23, 2002.
65. Irons JV, Sullivan TD, Cook EBM, Cox GW, and Hale RA. Outbreak of Smallpox in the Lower Rio Grande Valley of Texas in 1949. *American Journal of Public Health*. Jan. 1953;43(1):25–29.
66. Center for Civilian Biodefense Strategies. *Smallpox*. Available at: <http://hopkins-biodefense.org/pages/agents/agentsmallpox.html>. Accessed April 23, 2002.
67. Texas Department of Health, Bureau of Vital Statistics. *Summary of Vital Statistics for Texas 2000*. Available at: [http://www.tdh.state.tx.us/bvs/stats00/annr\\_hm/00summ.htm](http://www.tdh.state.tx.us/bvs/stats00/annr_hm/00summ.htm). Accessed April 5, 2002.
68. Hoyert DL, Freedman MA, Strobino DM, Guyer B. Annual Survey of Vital Statistics. *Pediatrics*. 2001;108(6):1247.
69. Texas Department of Health, Bureau of Vital Statistics. *2000 Mortality*. Available at: <http://www.tdh.state.tx.us/bvs/stats00/text/00mortal.htm>. Accessed April 5, 2002.  
Hoyert DL, Freedman MA, Strobino DM, Guyer B. Annual Survey of Vital Statistics. *Pediatrics*. 2001;108(6):1247.
70. Williams et al. Prevalence of spina bifida and anencephaly during the transition to mandatory folic acid fortification in the United States. *Teratology* 2002(66);33–39.
71. *Texas Birth Defects Monitor*. Recent High rates of Anencephaly in Laredo. Austin: Texas Department of Health June 2001. 7(1):1–2.
72. Texas Department of Health. Bureau of Vital Statistics. *2000 Annual Report — Natality*. Available at: <http://www.tdh.state.tx.us/bvs/stats00/text/00natal.htm>. Accessed April 8, 2002.
73. Martin JA, Hamilton BE, Ventura SJ, Menacker F, Park MM. Births: final data for 2000. *National Vital Statistics Report* 2002 Feb 12;50(5):12–13. Available at: [http://www.cdc.gov/nchs/data/nvsr/nvsr50/nvsr50\\_05.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr50/nvsr50_05.pdf). Accessed May 31, 2002.





74. Texas Department of Health. Bureau of Vital Statistics. *2000 Annual Report — Natality*. Available at: <<http://www.tdh.state.tx.us/bvs/stats00/text/00natal.htm>>. Accessed April 8, 2002.
75. Hoyert DL, Freedman MA, Strobino DM, Guyer B. Annual Survey of Vital Statistics. *Pediatrics*. 2001;108(6):1241–55.
76. Office of Health Information and Analysis. *Healthy People 2000 Health Status Indicators by Texas Public Health Regions and Race/Ethnicity, 1990–1999. Part One*. Austin: Texas Department of Health. February 2002:34. Available at: <<http://www.tdh.state.tx.us/dpa/hppt1.pdf>>. Accessed April 5, 2002.
77. Texas Department of Health. Bureau of Vital Statistics. *2000 Annual Report — Natality*. Available at: <<http://www.tdh.state.tx.us/bvs/stats00/text/00natal.htm>>. Accessed April 8, 2002.  
Hoyert DL, Freedman MA, Strobino DM, Guyer B. Annual Survey of Vital Statistics. *Pediatrics* 2001;108(6):1241–55.
78. Leading Health Indicators. In: US Department of Health and Human Services. *Healthy People 2010: Understanding and Improving Health*. Vol. 1, 2nd ed. Boston: Jones and Bartlett. 2000:31. Available at: <<http://www.health.gov/healthypeople/Document/tableofcontents.htm#volume1>>. Accessed April 12, 2002.  
Aligne CA, Stoddard JJ. Tobacco and children. An economic evaluation of the medical effects of parental smoking. *Archives of Pediatrics and Adolescent Medicine*. 1997 Jul;151(7):648–53.
79. National Center on Birth Defects and Developmental Disabilities. *Fetal Alcohol Syndrome*. Available at: <<http://www.cdc.gov/ncbddd/fas>>. Accessed April 8, 2002.
80. Buescher PA, et al. The quality of the new birth certificate data: A validation study in North Carolina. *American Journal of Public Health*. August 1993, 83(8): 1163–65.
81. Bob Woldman, Texas Department of Health, Bureau of Vital Statistics, personal communication, June 11, 2002.
82. Martin JA, Hamilton BE, Ventura SJ, Menacker F, Park MM. Births: Final data for 2000. *National Vital Statistics Report* 2002 Feb 12;50(5):12–13. Available at: <[http://www.cdc.gov/nchs/data/nvsr/nvsr50/nvsr50\\_05.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr50/nvsr50_05.pdf)>. Accessed May 31, 2002.
83. Bob Woldman, Texas Department of Health, Bureau of Vital Statistics, personal communication, June 11, 2002.  
Martin JA, Hamilton BE, Ventura SJ, Menacker F, Park MM. Births: final data for 2000. *National Vital Statistics Report* 2002 Feb 12;50(5):12–13. Available at: <[http://www.cdc.gov/nchs/data/nvsr/nvsr50/nvsr50\\_05.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr50/nvsr50_05.pdf)>. Accessed May 31, 2002.
84. Alan Guttmacher Institute. *Facts in Brief: Teen Sex and Pregnancy*. September 1999. Available at: <[http://www.agi-usa.org/pubs/fb\\_teen\\_sex.html](http://www.agi-usa.org/pubs/fb_teen_sex.html)>. Accessed April 8, 2002.



85. Texas Department of Health. Bureau of Vital Statistics. *2000 Annual Report — Natality*. Available at: <<http://www.tdh.state.tx.us/bvs/stats00/text/00natal.htm>>. Accessed April 8, 2002.  
Texas Department of Health. Bureau of Vital Statistics. *1994 Annual Report — Natality*. Available at: <<http://www.tdh.state.tx.us/bvs/stats94/text/natal94.htm>>. Accessed April 8, 2002.  
Hoyert DL, Freedman MA, Strobino DM, Guyer B. Annual Survey of Vital Statistics. *Pediatrics* 2001;108(6):1241–55.  
Martin JA, Hamilton BE, Ventura SJ, Menacker F, Park MM. Births: final data for 2000. *National Vital Statistics Report* 2002 Feb 12;50(5):12–13. Available at: <[http://www.cdc.gov/nchs/data/nvsr/nvsr50/nvsr50\\_05.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr50/nvsr50_05.pdf)>. Accessed May 31, 2002.
86. Office of Health Information and Analysis. *Healthy People 2000 Health Status Indicators by Texas Public Health Regions and Race/Ethnicity, 1990–1999. Part One*. Austin: Texas Department of Health. February 2002:36. Available at: <<http://www.tdh.state.tx.us/dpa/hppt1.pdf>>. Accessed April 5, 2002.
87. Texas Department of Health. Bureau of Vital Statistics. *Texas Vital Statistics. 2000 Annual Report*. Available at: <<http://www.tdh.state.tx.us/bvs/stats00/annrpt.htm>>. Accessed June 4, 2002.
88. Texas Department of Health. Bureau of Vital Statistics. *Texas Vital Statistics. 2000 Annual Report*. Available at: <<http://www.tdh.state.tx.us/bvs/stats00/annrpt.htm>>. Accessed June 4, 2002.
89. Kathy Griffis-Bailey, Texas Department of Health, Traumatic Brain Injury Project, personal communication, May 10, 2002.
90. Office of Health Information and Analysis. *Healthy People 2000 Health Status Indicators by Texas Public Health Regions and Race/Ethnicity, 1990–1999. Part One*. Austin: Texas Department of Health. February 2002:14. Available at: <<http://www.tdh.state.tx.us/dpa/hppt1.pdf>>. Accessed April 5, 2002.  
Texas Department of Public Safety. *2000 Crime in Texas Report*. Available at: <<http://www.txdps.state.tx.us/crimereports/Crime>>. Accessed June 4, 2002.
91. Texas Department of Public Safety. *2000 Crime in Texas Report*. Available at: <<http://www.txdps.state.tx.us/crimereports/Crime>>. Accessed June 4, 2002.  
US Federal Bureau of Investigation. *Crime in the United States (2000)*. Available at: <<http://www.fbi.gov/ucr/ucr.htm>>. Accessed June 3, 2002.
92. Texas Department of Public Safety. *2000 Crime in Texas Report*. Available at: <<http://www.txdps.state.tx.us/crimereports/Crime>>. Accessed June 4, 2002.  
US Federal Bureau of Investigation. *Crime in the United States (2000)*. Available at: <<http://www.fbi.gov/ucr/ucr.htm>>. Accessed June 3, 2002.
93. Texas Department of Mental Health and Mental Retardation. *Strategic Plan*. Austin: Texas Department of Mental Health and Mental Retardation. June 2000:52–54.
94. Texas Department of Mental Health and Mental Retardation. *Prevalence Data*. Available at: <<http://www.mhmr.state.tx.us/CentralOffice/ProgramStatisticsPlanning/Data.html>>. Accessed April 13, 2002.
95. National Institute of Mental Health. *The Numbers Count: Mental Disorders in America*. Available at: [www.nimh.nih.gov/publicat/numbers.cfm](http://www.nimh.nih.gov/publicat/numbers.cfm). Accessed April 13, 2002.



96. National Institutes of Health. Mental Health and Mental Disorders. In: US Department of Health and Human Services. *Healthy People 2010: Understanding and Improving Health*. Vol. 2, 2nd ed. Boston: Jones and Bartlett. 2000:18-3. Available at: <<http://www.health.gov/healthypeople/Document/tableofcontents.htm#Volume2>>. Accessed April 12, 2002.
97. Texas Department of Health. Bureau of Vital Statistics. *Texas Vital Statistics. 2000 Annual Report*. Available at: <<http://www.tdh.state.tx.us/bvs/stats00/annrpt.htm>>. Accessed April 13, 2002.  
Hoyert DL, Arias E, Smith BL, Murphy SL, Kochanek KD. Deaths: Final Data for 1999. *National Vital Statistics Report*, 2001 Sept 21;49(8). Available at: <[http://www.cdc.gov/nchs/data/nvsr/nvsr49/nvsr49\\_08.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr49/nvsr49_08.pdf)>. Accessed April 12, 2002.
98. Texas Department of Health. Bureau of Vital Statistics. *Texas Vital Statistics. 2000 Annual Report*. Available at: <<http://www.tdh.state.tx.us/bvs/stats00/annrpt.htm>>. Accessed April 13, 2002.  
Keppel KG, Percy JN, Wagener DK. Trends in Racial and Ethnic-Specific Rates for the Health Status Indicators: United States: 1990–1998, *Healthy People 2000 Statistical Notes* No. 23, January 2002:5. Available at: <<http://www.cdc.gov/nchs/data/statnt/statnt23.pdf>>. Accessed April 13, 2002.  
National Institute of Mental Health. *The Numbers Count, Mental Disorders in America*. Available at: [www.nimh.nih.gov/publicat/numbers.cfm](http://www.nimh.nih.gov/publicat/numbers.cfm)>. Accessed April 13, 2002.
99. Texas Department of Health. Bureau of Vital Statistics. *Texas Vital Statistics. 2000 Annual Report*. Available at: <<http://www.tdh.state.tx.us/bvs/stats00/annrpt.htm>>. Accessed April 13, 2002.
100. National Center for Chronic Disease Prevention and Health Promotion. *Children's Oral Health. Dental Sealants. Frequently Asked Questions*. Available at: <<http://www.cdc.gov/nccdphp/oh/child-sealants-faq.htm>>. Accessed April 5, 2002.
101. Dental Task Force of the Greater Houston Metropolitan Area, in collaboration with the Department of Dental Public Health and Dental Hygiene, Dental Branch, University of Texas Health Science Center at Houston, supported by the Texas Department of Health, Innovations Grant No. 74474474444 2001.
102. Satcher, D. *Oral Health in America: A Report of the Surgeon General*. Washington, DC: Department of Health and Human Services, US Public Health Service; 2000:64. Available at: <<http://www.nidr.nih.gov/sgr/sgrohweb/home.htm>>. Accessed April 5, 2002.
103. National Center for Chronic Disease Prevention and Health Promotion. *Children's Oral Health. Dental Sealants. Frequently Asked Questions*. Available at: <<http://www.cdc.gov/nccdphp/oh/child-sealants-faq.htm>>. Accessed April 5, 2002.
104. The Dental Task Force of the Greater Houston Metropolitan Area, in collaboration with the Department of Dental Public Health and Dental Hygiene, Dental Branch, University of Texas Health Science Center at Houston, supported by the Texas Department of Health, Innovations Grant No. 74474474444 2001.
105. National Center for Chronic Disease Prevention and Health Promotion. *Children's Oral Health. Dental Sealants Press Release*. August 31, 2001. Available at: <<http://www.cdc.gov/nccdphp/oh/child-sealants-pr.htm>>. Accessed April 5, 2002.
106. National Center for Chronic Disease Prevention and Health Promotion. *Recommendations for Using Fluoride to Prevent and Control Dental Caries in the United States*. August 2001. Available at: <<http://www.cdc.gov/nccdphp/oh/flfactcw2.htm>>. Accessed April 5, 2002.



107. Centers for Disease Control and Prevention. Populations Receiving Optimally Fluoridated Public Drinking Water — United States, 2000. *MMWR* 2002 Feb 22;51(7):144–47. Available at: <<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5107a2.htm>>. Accessed April 5, 2002.
108. Texas Department of Health, *Water Fluoridation Costs in Texas: Texas Health Steps (EPSDT-Medicaid)*. May 2000. Available at: <<http://www.tdh.state.tx.us/dental/flstudy.pdf>>. Accessed April 5, 2002.
109. Centers for Disease Control and Prevention Populations Receiving Optimally Fluoridated Public Drinking Water — United States, 2000. *MMWR* 2002 Feb 22;51(7):144–47. Available at: <<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5107a2.htm>>. Accessed April 5, 2002.
110. Texas Department of Health, Texas Behavioral Risk Factor Surveillance System, 1999.
111. Texas Natural Resource Conservation Commission. *State of the Texas Environment, Strategic Plan, Fiscal Years 2003–2007, Volume 2*. Available at: [http://www.tnrcc.state.tx.us/admin/topdoc/sfr/035\\_02/035\\_02.html](http://www.tnrcc.state.tx.us/admin/topdoc/sfr/035_02/035_02.html). Accessed July 19, 2002.
112. Texas Natural Resource Conservation Commission. *State of the Texas Environment, Strategic Plan, Fiscal Years 2003–2007, Volume 2*. Available at: [http://www.tnrcc.state.tx.us/admin/topdoc/sfr/035\\_02/035\\_02.html](http://www.tnrcc.state.tx.us/admin/topdoc/sfr/035_02/035_02.html). Accessed July 19, 2002.
113. Texas Natural Resource Conservation Commission. *State of the Texas Environment, Strategic Plan, Fiscal Years 2003–2007, Volume 2*. Available at: [http://www.tnrcc.state.tx.us/admin/topdoc/sfr/035\\_02/035\\_02.html](http://www.tnrcc.state.tx.us/admin/topdoc/sfr/035_02/035_02.html). Accessed July 19, 2002.





TDH

#90-11515

7/02